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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,884	03/25/2004	Yu Sui	2004US301	6608

7590

10/23/2006

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EXAMINER

DUDA, KATHLEEN

ART UNIT PAPER NUMBER

1756

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/808,884

Applicant(s)

SUI ET AL.

Examiner

Kathleen Duda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13 and 17-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10052005/11172005/01092006
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-11 and 13-21 are pending in this application.

Election/Restrictions

2. Claims 14-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 17, 2005.

Applicant did not present arguments as to the restriction requirement in the response to the restriction requirement on June 17, 2005. The election was treated as being made without traversal due to no arguments being presented in the non-final action dated August 30, 2005. Applicant has now presented arguments traversing the restriction requirement. These arguments are not found to be timely filed and the election being made without traverse is maintained.

Information Disclosure Statement

3. The Choi reference (IDS filed October 5, 2005) and the Oberlander reference (IDS filed November 17, 2005) could not be considered because it appears that the docket numbers are incorrect.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 9, 10, 13, 17, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Pawlowski (EP 1 033 624).

Pawlowski teaches a photosensitive composition. The composition includes a photoacid generator (starting at paragraph 0026) and hydroxystyrene resin (starting at paragraph 0041) which includes polymers meeting the limitations of the claims of the current application (including claims 1-5, 17, 20 and 21). Pawlowski does not explicitly state that the resin is water insoluble but the same polymers are taught which are taught by the current application and paragraph 0083 lists solvents for the composition and water is not listed. Paragraph 0068 teaches that a dye can be added with paragraph 0069 listing dyes which include those recited in the current application (including claims 9, 10). Paragraph 0087 teaches uses for the composition including photoresist processing. Paragraph 0090 teaches radiation sources which are within the limitations recited in claim 13

of the current application. Paragraph 0092 teaches heating at a temperature of 60-150° C after exposure.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 11, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pawlowski in view of Jung (US Patent 6,803,172).

The teachings of Pawlowski have been discussed above. Pawlowski does not teach the pKa or k value as recited in these claims.

Pawlowski is silent on the specific pKa of the acid and does not disclose that the acid has a pKa greater than 1.0. However pKa is a constant property of a given material and one of ordinary skill in art would have expected an acid to have a pKa greater than 1.0. Pawlowski does not disclose that the acid is removed at a temperature below 220 °C. This is a processing step and a composition is claimed.

Pawlowski is silent on the k value and does not disclose that the k value is in the range of 0.1 to 1.0. Jung teaches that it is possible to adjust

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the k value of an organic antireflective coating by controlling the proportion of the primary polymer (col.4, 64-col.5, 7), thereby establish the k value as a result effective variable. It would within the ordinary skill of one in the art to determine the optimal k value ARC layer in Pawlowski by routine experimentation and have a k value in the range of 0.1 to 1.0, if required, because the k value of an ARC layer are a result-effective variable, as taught by Jung and the discovery of an optimum value of a result effective variable is ordinary within the skill of the art, as taught by *In re Boesch*, (617 F.2d 272, 205 USPQ 215 (CCPA 1980)).

Conclusion


6. Any inquiry concerning this communication should be directed to Examiner K. Duda at (571) 272-1383. Official FAX communications should be sent to (571) 273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff, can be reached at 571-272-1385.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see

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<http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kathleen Duda
Primary Examiner
Art Unit 1756